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AUTHOR Manning, Sherry
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ABSTRACT

This study assesses the economic impact of the Metropolitan Community Colleges (MCC) on the four-county region of metropolitan Kansas City, Missouri. The total economic impact is composed of a network of interactive cash flows between the colleges, business, government, and individuals, and may be derived by adding three distinct components: direct expenditures, indirect expenditures, and tax income to the counties and schools. For 1974-75, direct expenditures totalled $14,294,490; indirect expenditures totalled $13,865,654; and tax income totalled $1,860,509. Thus, the total impact was $30,020,653, a 51 percent increase since 1971-72. While approximately 82.5 percent of MCC's 1974-75 expenditures were made within the four county area, only 44.3 percent of the funds were provided by local sources. This means that nonlocal sources such as state and federal aid, and tuition paid by out-of-district students, accounted for the majority of the revenues of MCC, representing an increase in the area's economy of approximately five million dollars. Chapters of this document are devoted to examing MCC's impact on local business activity, jobs and income, capital expansion, local government, and human capital. Data are tabulated and graphed throughout the document, and guidelines for conducting similar studies are appended. (Author/NHM)

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ED115344

# ECONOMIC IMPACT OF THE METROPOLITAN COMMUNITY COLLEGES ON THE KANSAS CITY REGION

FINAL REPORT
September 3, 1975

MRI Project No. KA-141-D

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For

The Metropolitan Community Colleges
560 Westport Road
Kansas City, Missouri 64111



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## PREFACE

The purpose of this study has been to identify and to assess the economic impact of the Metropolitan Community Colleges on the Kansas City region. The methodology employed was the economic base model developed for the American Council on Education. Economic impacts were derived for the four county area including Platte, Clay, Jackson, and Cass counties, for the district, and for the greater Kansas City Metropolitan Area.

The principal researcher for the study was Dr. Sherry Manning. Ms. Mary Cleveland, Mr. John Ortleb, and Mr. Denis Viscek provided research assistance. The project was under the direction of Mr. Richard L. Salmon, Manager of Education Systems Studies.

MIDWEST RESEARCH INSTITUTE

Richard L. Salmon, Manager
Education System Studies

Approved:

Gary R. Huss, Director
Economics and Management
Science Divison

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# INTRODUCTION

The Metropolitan Community Colleges have played a significant role in providing educational opportunities for individuals in the Kansas City Metropolitan Area at the postsecondary level. The community colleges began as the Polytechnic Institute in 1915 providing primarily technical and vocational training. This initial emphasis continues into the present. Approximately 45 percent of the current enrollment is classified as career occupational. In the current economic situation and the renewed interest in vocational programs, MCC's efforts are significant.

Although the programmatic mission of the institution does not differ markedly from its early beginnings, the institution has undergone many changes in its 60-year history. The community colleges serve the four Missouri counties of Platte, Clay, Jackson, and Cass counties with traditional as well as nontraditional educational offerings. Longview serves the southern sector; Maple Woods serves the northern sector; Penn Valley serves the central sector. The newly formed college without walls, known as the Metropolitan Institute of Community Services, serves the nontraditional sector of postsecondary education. The facilities of the community colleges currently occupy almost 400 acres with a book value of more than $35 million. As of April 1975, the District employed 1,570 people, in full-time, part-time, and student positions. The operating budget for fiscal year 1975-76 is greater than $14 million.

The educational opportunities the Metropolitan Community Colleges bring to Kansas City from this considerable investment are substantial. But it is the economic character and the impact of this investment in post-secondary education that is of interest in this report.

The money spent by Kansas Citians in the four county area in support of the educational programs buys not only higher educational opportunity and vocational training, but generates economic activity in the area as well. Monies earmarked for higher educational scholarships, loans, and the cost of education and facilities at the federal and state levels are brought to Kansas City. Monies spent by the community colleges in support of its educational mission and the programs of the colleges are part of the local economy and contribute to the employment, personal income, business volume, and tax base of the area.

This report, specifically, is addressed to identifying and assessing the extent of the economic impact of the Metropolitan Community Colleges (MCC) on the four county region of metropolitan Kansas City. The methodolgy for the study is based on the model developed by John Caffery and Herbert Isaacs.[1/]

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1/ John Caffrey and Herbert Isaacs, Estimating the Impact of a College or University on the Local Economy, American Council on Education One Dupont Circle, Washington D.C., 1972.

CHAPTER I

# METROPOLITAN COMMUNITY COLLEGES ECONOMIC IMPACT: SUMMARY

## Economic Components

The economic impact of the Metropolitan Community Colleges (MCC), includes first of all the direct spending of the community colleges in the local community. This includes monies spent by faculty, staff, and students of the community colleges in the Kansas City, Missouri, area.

There is also an indirect economic impact generated through the respending of businesses and individuals which can be traced to the original expenditures of the community college. For each dollar spent in the area by the colleges, income is received by business and government. These groups in turn spend a portion of their income in the local community, which again generates more income. The cyclical process continues and, in this way produces a "multiplier" effect on the original direct expenditures. The economic impact generated indirectly is not insignificant. Appendix A describes and quantifies the multiplier effect of the indirect component of the economic impact.

## Region Under Study

The geographic region considered in the study is the four county Kansas City, Missouri, Metropolitan Area of Jackson, Clay, Platte, and Cass counties. This region entirely contains the community college district. Figure 1 graphically displays the region; the heavy black line denotes the current boundaries of the Metropolitan Community Colleges' district.

The Metropolitan Community Colleges are located in Kansas City, Missouri, and primarily serve the four county region. However, to ignore the special nature of the two state location of Kansas City itself, and to ignore both the educational and economic contribution of the community colleges on both states would be a gross error. The community colleges are metropolitan, by name, serve the Kansas City community, by mission, and have an impact, both educational and economic in both Missouri and Kansas. Because the community colleges are considered local to the four county area of Missouri and are supported in part by this region, the study concentrates on the economic impact in this region. In addition to assessing the economic impact of the colleges in Missouri, direct expenditures made by the colleges and its employees and students in the State of Kansas are included.

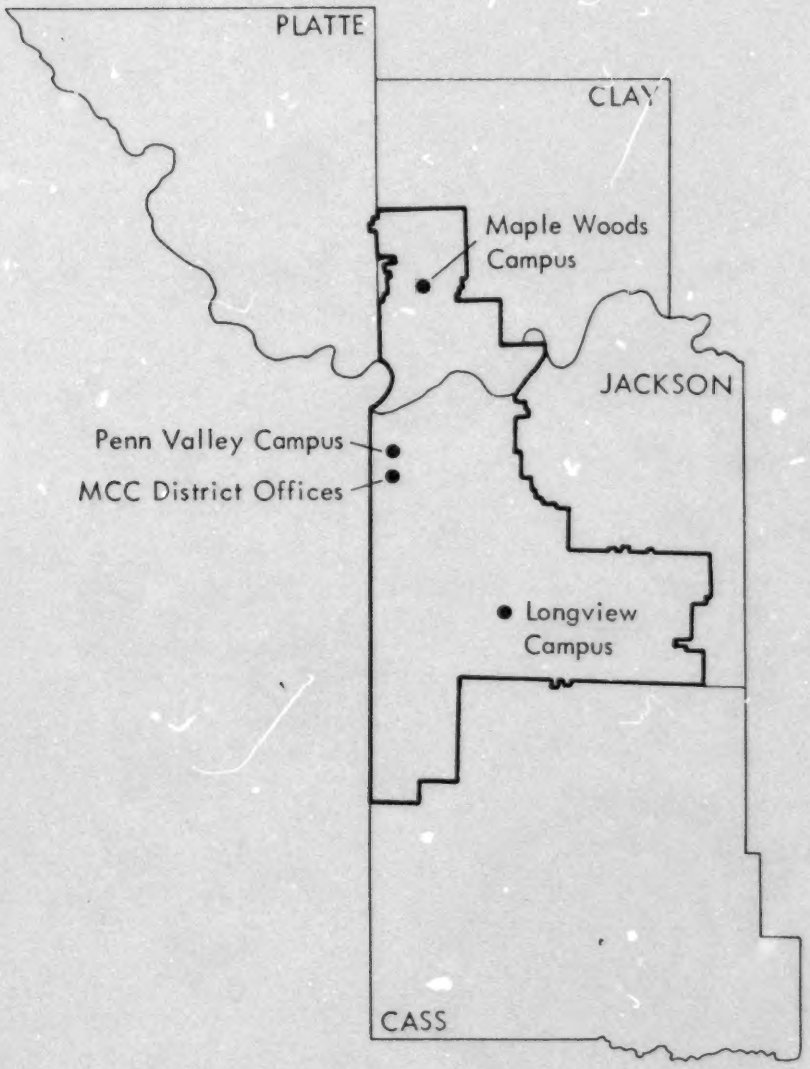



Figure 1 - Four Counties and the MCC District

Throughout this report total economic impact will be presented for both the district and for the larger four county region. Direct expenditures in Kansas are presented as well.

## Total Economic Impact

The total economic impact of the Metropolitan Community Colleges is composed of a network of interactive cash flows between the colleges, business, government, and individuals. Figure 2 presents a picture of the network and the composition of the various components.

The total economic impact of MCC on the Kansas City four county area was $30 million in 1974-75. This compares to $19.9 million in 1971-72 or a 51 percent increase. The total economic impact on the District was $27.8 million and $17.7 million, respectively, or a 57.1 percent increase. The economic impact for the entire Metropolitan Kansas City area was $38.4 million in 1974-75 and $25.1 million in 1971-72, a 53.0 percent increase.* The 1985 Master Plan prepared by the community college anticipates a pattern of growth leading to a budget, or total revenues, of $34.6 million. If this growth is realized and if the total revenues of the college are of this magnitude, it is not unreasonable to expect an economic response in the Metropolitan Kansas City area in the order of $100 million. Table 1 presents these results in tabular form.

TABLE 1

TOTAL ECONOMIC IMPACT
(in millions)

| | District | | Four Counties | | Greater Metropolitan Kansas City | |
|---|---|---|---|---|---|---|
| | Actual | Adjusted[a/] | Actual | Adjusted[a/] | Actual | Adjusted[a/] |
| 1971-72 | $17.7 | $17.7 | $19.9 | $19.9 | $25.1 | $25.1 |
| 1974-75 | $27.8 | $22.0 | $30.0 | $23.7 | $38.4 | $30.4 |

a/ Adjusted to 1971-72 dollar.

The total economic impact is the sum of the three distinct components: (1) direct expenditures; (2) indirect expenditures; and (3) tax income to the counties and schools. The dollar impacts for each of these components by area are given in Table 2.

* Dollar figures are not adjusted for inflation.

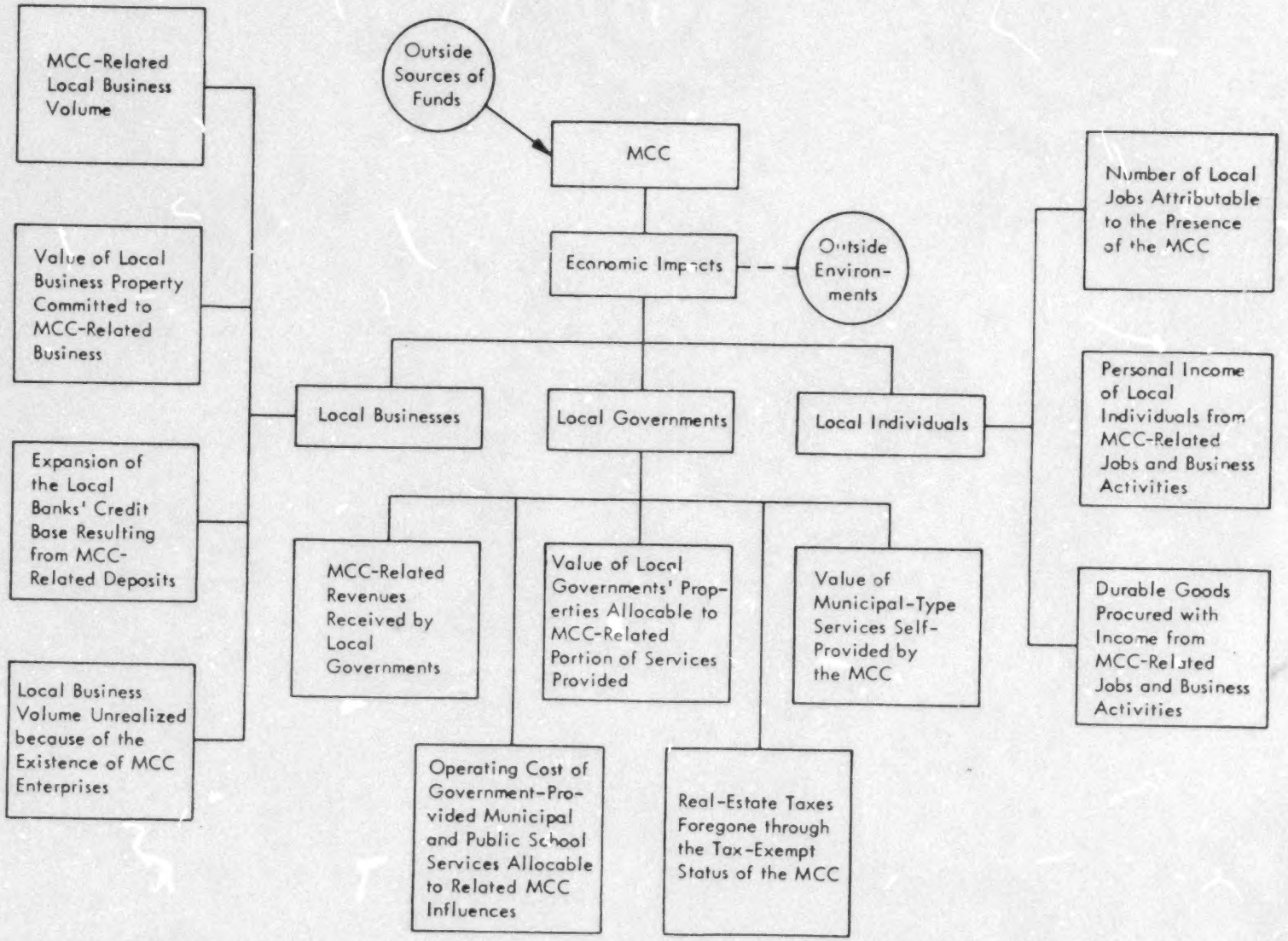

MCC-Related Local Business Volume
Value of Local Business Property Committed to MCC-Related Business
Expansion of the Local Banks' Credit Base Resulting from MCC-Related Deposits
Local Business Volume Unrealized because of the Existence of MCC Enterprises
Outside Sources of Funds
MCC
Economic Impacts
Outside Environments
Local Businesses
Local Governments
Local Individuals
MCC-Related Revenues Received by Local Governments
Value of Local Governments' Properties Allocable to MCC-Related Portion of Services Provided
Value of Municipal-Type Services Self-Provided by the MCC
Operating Cost of Government-Provided Municipal and Public School Services Allocable to Related MCC Influences
Real-Estate Taxes Foregone through the Tax-Exempt Status of the MCC
Number of Local Jobs Attributable to the Presence of the MCC
Personal Income of Local Individuals from MCC-Related Jobs and Business Activities
Durable Goods Procured with Income from MCC-Related Jobs and Business Activities

Figure 2 - Composition and Network of Cash Flows

TABLE 2

TOTAL ECONOMIC IMPACT BY COMPONENT

| | District ($) | | Four Counties ($) | |
|---|---|---|---|---|
| | 1971-72 | 1974-75 | 1971-72 | 1974-75 |
| Direct Expenditures | 8,604,025 | 13,569,968 | 9,457,264 | 14,294,490 |
| Indirect Expenditures | 8,001,744 | 12,620,070 | 9,173,546 | 13,865,654 |
| Tax Income | 1,083,196 | 1,630,817 | 1,287,742 | 1,860,509 |
| | 17,688,965 | 27,820,855 | 19,918,552 | 30,020,653 |

The economic impact on a per student basis was $1,945 per student in the district in 1971-72 and $2,266 in 1974-75. For the four county region, it was $2,190 per student for the year 1971-72 and $2,446 in 1974-75. In greater Kansas City Metropolitan Area, (including Kansas), the per student economic impact in 1971-72 was $2,758 and $3,125 in 1974-75. These estimates are presented in Table 3.

TABLE 3

PER STUDENT DOLLAR IMPACT

| | District | | Four Counties | | Greater Metropolitan Kansas City | |
|---|---|---|---|---|---|---|
| | Actual | Adjusted[a/] | Actual | Adjusted[a/] | Actual | Adjusted[a/] |
| 1971-72 | $1,945 | $1,945 | $2,190 | $2,190 | $2,758 | $2,758 |
| 1974-75 | $2,266 | $1,795 | $2,446 | $1,946 | $3,125 | $2,475 |

a/ Adjusted to 1971-72 dollars.

Economic Impact by Components

Direct expenditures by MCC, its faculty and staff, and students were in 1974-75 $14,294,490 (or $1,164 per student) for the four county area. For the District, expenditures over the same period were $13,569,968 (or $1,100 per student). Four county totals for 1971-72 were $9,457,264 (or $1,040 per student). District totals were $8,604,025 (an average of $946 per student for the same period.)

Indirect expenditures by business and individuals related to local expenditures by MCC were estimated in the four counties to be $13,865,654 in 1974-75 and $9,173,546 in 1971-72. Estimates for the District were $12,620,070 in 1974-75 and $8,001,744 in 1971-72. The combined direct and indirect

expenditures yield a total economic impact on local business volume of up to $28,160,144 in 1974-75 and $18,630,890 in 1971-72.

For the four county area tax income to local government due to MCC-related activity was estimated to be $1,287,742 in 1971-72 and $1,860,509 in 1974-75. District estimates of tax income were $1,083,196 in 1971-72 and $1,630,817 in 1974-75. These revenues include property taxes from business and individuals, sales tax, and state aid.

Capital expenditures, although not included in the total economic impact, have reached approximately $35 million since 1969. This is an average of over $5.3 million per year.

MCC is becoming increasingly important as an employer in the Kansas City area. In the fall of 1971 MCC employed 630 full-time and part-time faculty and staff; this figure rose to 891 in the fall of 1974 and to 1,211 in the spring of 1975. These figures do not include student employment, which is substantial. For example, in the spring of 1975 alone MCC provided jobs for 359 students throughout the district. In addition, through its impact on local business and government, MCC is responsible for generating 842 jobs in 1971-72 and 1,287 jobs in 1974-75 in the four county area. The corresponding figures for the district are 605 for 1971-72 and 968 for 1974-75.

The community colleges contributed to the personal income of residents of the Kansas City area in two ways: directly, through wages and salaries paid to local employees, and indirectly through the community college-related business volume described above. Table 4 summarizes the results in this area.

TABLE 4

CONTRIBUTIONS BY MCC TO PERSONAL INCOME

| | Wages and Salaries | | | |
|---|---|---|---|---|
| | District | | Four Counties | |
| Source | 1971-72 | 1974-75 | 1971-72 | 1974-75 |
| Paid by MCC | $3,180,070 | $ 5,216,645 | $3,609,575 | $ 5,921,213 |
| Indirect Wages and Salaries | 4,646,174 | 7,327,783 | 5,296,068 | 8,004,914 |
| | $7,826,244 | $12,544,428 | $8,905,643 | $13,926,127 |

A primary component in the understanding of the extent of economic impact of the MCC on the Kansas City Metropolitan Area is the amount of new money brought into the community by MCC. This can best be illustrated by examining the operating budget of MCC.* Figure 3 shows that while approximately $9,549,505, or 82.5 percent, of MCC's 1974-75 expenditures were made within the four county area only $4,793,908, or 44.3 percent, of the funds were provided by local sources. This means that nonlocal sources such as state and federal aid, and tuition paid by out-of-district students accounted for the majority of the revenues of MCC. This represents an increase in the area's economy by approximately $5 million.

* The Community College's 1974-75 operating budget can be found in Appendix E.

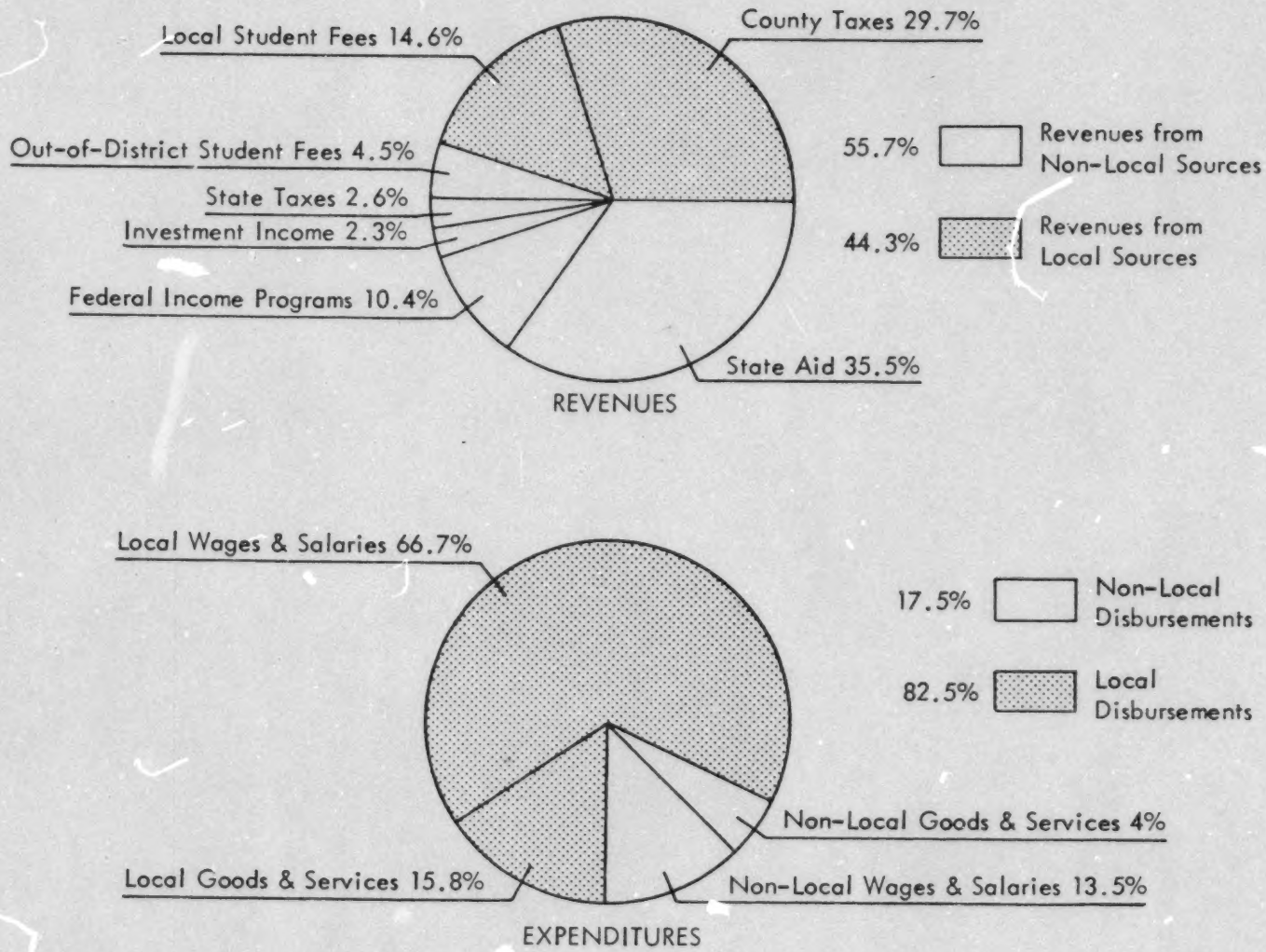



Figure 3 - MCC Four-County Revenues/Expenditures

CHAPTER II

# METROPOLITAN COMMUNITY COLLEGES
# LOCAL BUSINESS ACTIVITY

The impact of the Metropolitan Community Colleges on the local business volume of the Kansas City area can be disaggregated into two major areas. First is the direct spending by the MCC faculty, staff and students; second is the respending by business and individuals in the area due to MCC-related activity.

Figure 4 graphically shows these flows and demonstrates the interaction between the various components. This chapter describes each of these components, quantifies the impacts, and describes their exact composition.

The economic impact of MCC on local business encompasses more, however, than just the expenditures by these groups. There is an influence on the real and financial assets in the business community necessary to support the business activity of the Community Colleges as well. A description of these assets and estimates of their magnitude is also included in this chapter.

## Direct Expenditures

Direct expenditures, those classified as directly attributable to MCC, include expenditures made by the colleges, the district office, the faculty and staff, and the students. Expenditures made by individuals who visit the college or this area due to college-related business should be included in the estimates. Due to the lack of data, their influence was not calculated.

The estimated local expenditures by groups for the district are displayed in Table 5, for the four county area in Table 6, and for Kansas in Table 7.

TABLE 5

DIRECT EXPENDITURE BY GROUP, DISTRICT

| Group | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| MCC | $1,377,982 | $ 1,690,719 |
| Faculty and Staff | 2,641,305 | 4,378,811 |
| Students | 4,584,738[a/] | 7,500,438[a/] |
| | $8,604,025 | $13,569,968 |

a/ See Appendix D.

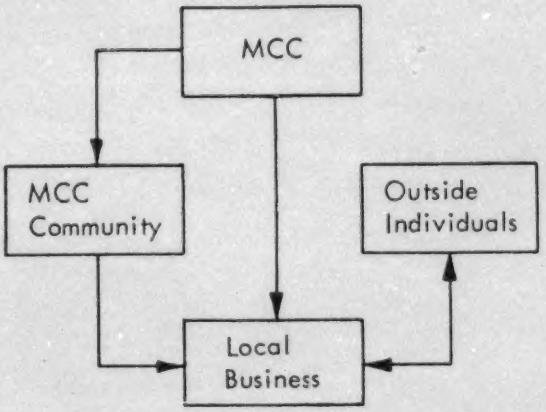



Figure 4 - MCC Impact on Local Business Activity

TABLE 6

DIRECT EXPENDITURES BY GROUP, FOUR COUNTIES

| Group | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| MCC | $1,377,982 | $ 1,690,717 |
| Faculty and Staff | 2,616,439 | 4,343,080 |
| Students | 5,462,843[a/] | 8,260,691[a/] |
| | $9,457,264 | $14,294,490 |

a/ See Appendix D.

TABLE 7

DIRECT EXPENDITURES IN KANSAS BY GROUP

| Group | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| MCC | $ 51,674 | $ 63,402 |
| Faculty and Staff | 1,070,874[a/] | 1,661,313 |
| Students | 4,041,183 | 6,611,323[a/] |
| | $5,163,731 | $8,336,038 |

a/ See Appendix D.

Figure 5 illustrates the results when the contributions of each group are averaged across both regions and time.

Of greater significance in appreciating the dynamics of MCC's economic impact on the community, is the growth in direct expenditures compared to the growth in retail sales. Retail sales in the community have increased only 18.6 percent from 1971-72 to 1974-75, but MCC-related expenditures have increased a dramatic 50 percent during the same period.

Data for estimating expenditures were derived from a number of sources. Some of the major sources were MCC payroll, purchasing and student records, and the Bureau of Labor statistics standard of living guides. The Community College's operating budget and annual reports were also extensively used.

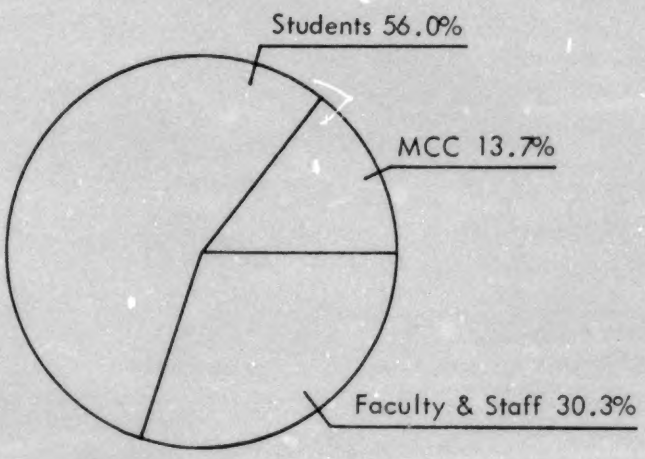



Figure 5 - Average Percentage Contribution by Group

Indirect Expenditures

Each dollar spent by the Community Colleges, the faculty and staff and students provides income to local businesses who in turn purchase goods and services and pay wages. More income is generated and the process cycles. The larger the region, the greater is the total cycle of respending recaptured by the region and the larger the multiplier.[2/] Appendix A describes the cycle that produces this effect and quantifies the particular multipliers used in this study.

It is important to note that primarily because of the multiplier effect and its significance in large metropolitan areas, large cities such as Kansas City probably benefit more per dollar of educational expenditure than smaller, or college-dominated communities.[3/]

Applying the appropriate multipliers[4/] to the direct expenditures of MCC [illegible] community yields the following estimates of the total respend[illegible]:

1. 1971-72 District, $8,001,744
2. 1974-75 District, $12,620,070
3. 1971-72 four county area, $9,173,546
4. 1974-75 four county area, $13,865,654

A breakdown of these estimates are found in Tables 8 and 9.

TABLE 8

DISTRICT INDIRECT EXPENDITURES

| Source | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| Private Individuals | $6,366,979 | $10,041,776 |
| Business | 1,634,765 | 2,578,294 |
| | $8,001,744 | $12,620,070 |

2/ Hudson, Barclay M., "Regional Economic Effects of Higher Education Institutions," Socio-Econ Planning Science, UCLA, Vol. 8, pp. 181-194.

3/ Ibid., pp. 181-194.

4/ Caffrey and Issacs, op. cit.,

TABLE 9

FOUR COUNTY INDIRECT EXPENDITURES

| Source | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| Private Individuals | $7,187,520 | $10,863,811 |
| Business | 1,986,026 | 3,001,843 |
| | $9,173,546 | $13,865,654 |

MCC-Related Business Volume

The sum of direct spending attributable to the community colleges and the respending by individuals and business yields the total MCC-related business volume. For 1974-75, the MCC-related local business volume in the four county area was $28,160,144 (or approximately $2,294 per student). The district totals for the same period were $26,190,038 (or $2,134 per student). The corresponding figures for 1971-72 were $18,630,890 for the four county area (an average $2,049 per student); and for the district $16,605,769 (an average expenditure of $1,826 per student).

Comparing the revenues from local sources to these estimates indicates that every dollar received by MCC from local residents produced between $5.46 to $5.87 in local business volume in 1974-75.

The contributions to the total MCC-related business volume listed by sources are presented in Tables 10 and 11.

TABLE 10

DISTRICT MCC-RELATED BUSINESS VOLUME

| Source | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| MCC | $ 1,377,982 | $ 1,690,719 |
| Faculty and Staff | 2,641,305 | 4,378,811 |
| Students | 4,584,738 | 7,500,438 |
| Respending by Individuals | 6,366,979 | 10,041,776 |
| Respending by Business | 1,634,765 | 2,578,294 |
| | $16,605,769 | $26,190,038 |

TABLE 11

FOUR COUNTY MCC-RELATED BUSINESS VOLUME

| Source | Estimated Expenditures 1971-72 | 1974-75 |
|---|---|---|
| MCC | $ 1,377,982 | $ 1,690,719 |
| Faculty and Staff | 2,616,439 | 4,343,080 |
| Students | 5,462,843 | 8,260,691 |
| Respending by Individuals | 7,187,520 | 10,863,811 |
| Respending by Business | 1,986,076 | 3,001,843 |
| | $18,630,890 | $28,160,144 |

Economic Impact on Local Financial Assets

In addition to local business volume, the operation of the community colleges also has an impact on the real and financial assets in the community. This impact is generated both directly through the colleges, their employees and students, and indirectly through related business activity.

Both the credit base and the private property base of Kansas City are directly increased by the operation of the community colleges. MCC and its community of faculty, staff, and students hold time and demand deposits in local banks, increasing the credit base of the Kansas City area. In addition, a number of the faculty, staff, and students own their own homes, and this increases the private property base in the community.

The business volume generated by MCC-related expenditures requires the support of real and financial assets in the form of property, inventory, and deposits held by businesses. Estimates of the value of these assets are given in Tables 12 and 13.

TABLE 12

DISTRICT MCC-RELATED REAL AND FINANCIAL ASSETS

| Source | Value 1971-72 | 1974-75 |
|---|---|---|
| Inventories | $ 1,992,692 | $ 3,142,805 |
| Commercial Real Property | 3,858,848 | 6,031,883 |
| Financial Deposits | | |
| MCC | 3,508,822 | 5,378,541 |
| Faculty and Staff | 1,001,367 | 1,409,283 |
| Student | 1,385,159[a/] | 1,891,314[a/] |
| Business | 509,963 | 804,296 |
| Total Assets | $12,256,851 | $18,658,122 |

a/ See Appendix D.

TABLE 13

FOUR COUNTY MCC-RELATED REAL AND FINANCIAL ASSETS

| Source | Value 1971-72 | 1974-75 |
|---|---|---|
| Inventories | $ 2,235,697 | $ 3,379,217 |
| Commercial Real Property | 5,310,463 | 7,548,442 |
| Expansion to Credit Base | | |
| MCC | 3,508,822 | 5,378,541 |
| Faculty and Staff | 1,133,881[a/] | 1,595,778 |
| Student | 1,553,009 | 2,120,500[a/] |
| Business | 572,152 | 864,798 |
| Total Assets | $14,314,024 | $20,887,276 |

a/ See Appendix D .

Individual estimates presented in the tables are based on data provided by college records, the Bureau of Labor Statistics, the Internal Revenue Service, the Federal Reserve Board, and the county assessor.

MCC-Operated Enterprises

While salaries, wages, inventories, and other expenditures by MCC generate both a direct and an indirect positive impact on the local economy, the expenditures related to auxiliary enterprises operated by the community colleges must be charged back. Auxiliary or MCC-operated enterprises, such as the bookstores, represent, in an economic sense, unrealized business volume for local merchants and businessmen. The extent of these enterprises is minimal but should be noted: $352,000 in fiscal 1971-72; $518,075 in fiscal 1974-75.

CHAPTER III

## METROPOLITAN COMMUNITY COLLEGE JOBS AND INCOME

In an analogous way to business volume, the economic components, jobs and personal income, are affected in two ways by the fiscal operations of MCC. First of all, MCC is an employer and provides jobs and pays income to its employees. Secondly, through direct MCC spending and MCC-related respending, additional jobs are created in the community and personal income is generated for those jobs.

The number of full-time positions provided directly to residents of the four county area by direct employment with MCC were 527 in 1974-75 and 347 in 1971-72. In the district, full-time employment figures were 464 in 1974-75 and 306 in 1971-72. Indirectly, through respending generated by MCC-related activities, an additional 1,287 full-time jobs were created in 1974-75 in the four county area; in 1971-72, 842 full-time jobs were created. Estimates of MCC-related district employment were 968 and 605 respectively.

Corresponding to the previously presented employment figures, MCC paid salaries and wages to residents of the four county area of $5,921,213 in 1974-75 and $3,609,575 in 1971-72. For the same time periods, MCC paid a total of $5,216,645 and $3,180,070, respectively, to district residents. Indirectly, the community colleges were also responsible for generating salaries for positions created through MCC-related business activity. Estimates of salaries and wages for the four county area are $8,004,914 in 1974-75 and $5,296,068 in 1971-72. For the district, estimates are $7,327,783 for 1974-75 and $4,646,174 for 1971-72. All income figures are summarized in Figure 6. Employment figures for the four county area are presented in Figure 7, including estimates of employment in 1985.

It is important to note that these figures do not include part-time positions and student employment. In 1974-75, MCC paid $709,213 for an additional 215 part-time positions for four county residents; in 1971-72 MCC paid $705,455 for 177 positions. In the district, MCC provided 189 part-time jobs generating $624,823 in income for 1974-75 and provided 156 part-time jobs generating $621,513 in income for 1971-72. In addition, the community colleges paid wages of $143,718 for student help in 1974-75 and $95,860 in 1971-72.

### Total Impact on Jobs and Income

In the four county area, then, MCC provided a total of 1,814 full-time positions which yielded a total personal income of $13,926,127 in 1974-75. In 1971-72, 1,189 full-time jobs were provided generating a

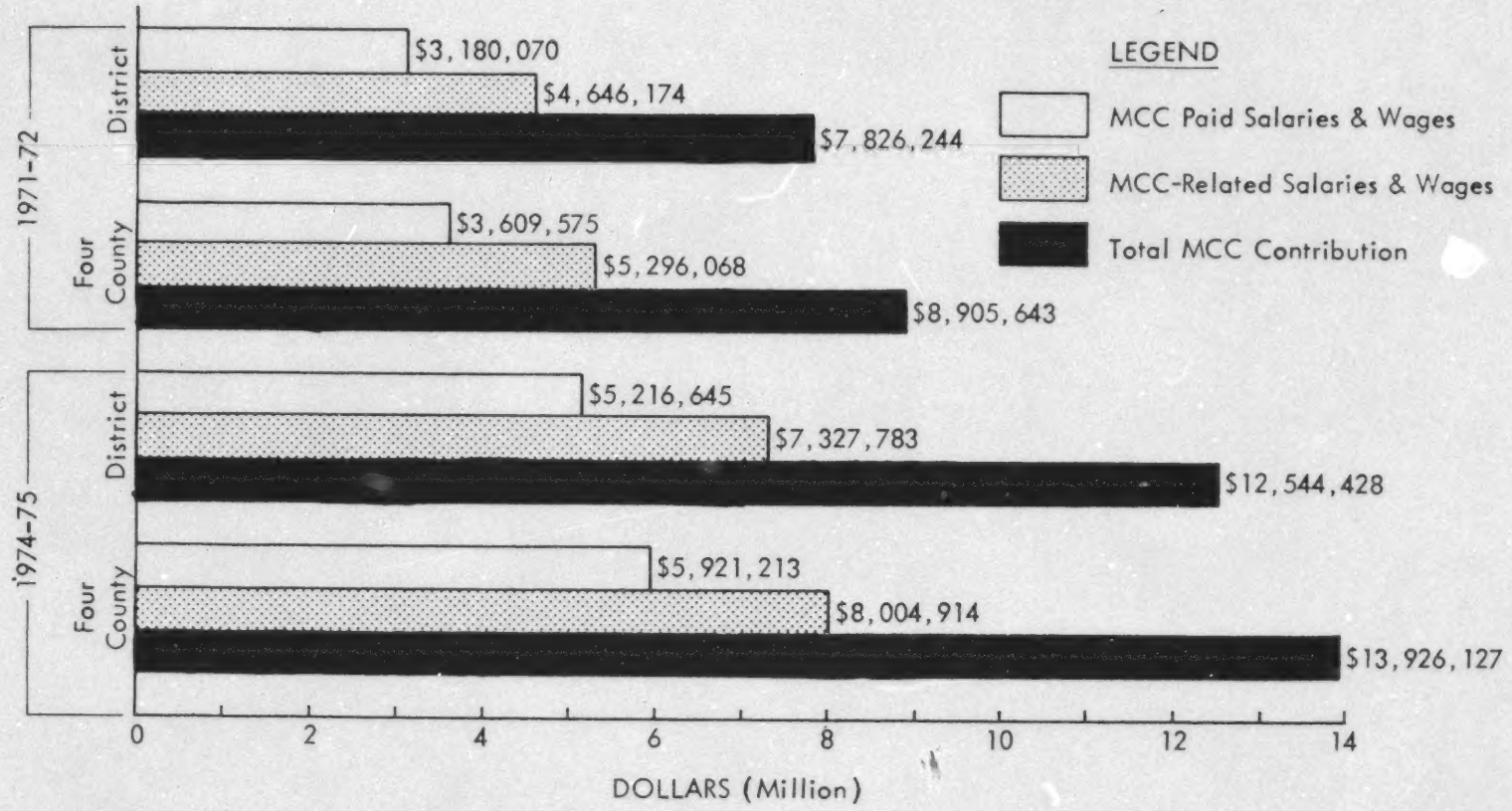
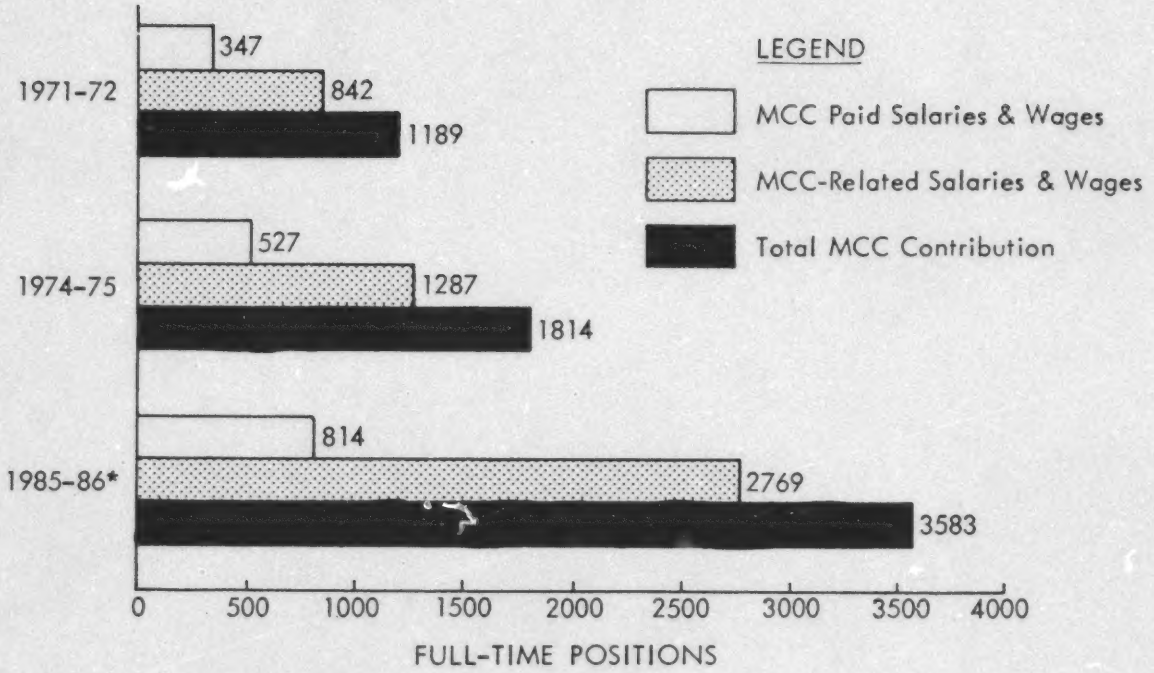



Figure 6 - MCC Contribution to Personal Income




*Estimates Based on 1985 Master Plan

Figure 7 - MCC Contribution to Four-County Employment

total person income of $8,905,643. The corresponding district totals for the same time periods were 1,432 full-time jobs and $12,544,428 in income and 911 full-time jobs and $7,826,244 in income, respectively. These results are summarized in Table 14.

TABLE 14

EMPLOYMENT AND INCOME GENERATED BY MCC

| | District | | Four Counties | |
|---|---|---|---|---|
| | 1971-72 | 1974-75 | 1971-72 | 1974-75 |
| Full-time Positions | 911 | 1,432 | 1,189 | 1,814 |
| Income | $7,826,244 | $12,544,428 | $8,905,643 | $13,926,127 |

CHAPTER IV

## METROPOLITAN COMMUNITY COLLEGES CAPITAL EXPANSION

Capital expansion at any educational institution is usually related to growth in enrollments or expansion of mission or program. The Metropolitan Community Colleges have realized considerable increase in both of these areas, particularly in the last five years. In response to the growth, considerable expansion of facilities has occurred, in the establishment and construction of the three community college campuses, Longview, Maple Woods, and Penn Valley. A majority of the construction has been at Penn Valley, whose new campus was opened in the spring of 1972. Construction at the Longview and Maple Woods campuses has been limited thus far to the three recently completed permanent buildings.

Construction is a major component in an assessment of total economic impact. It must be considered separately, however, from the impacts described earlier because it represents a "one-time" capital expenditure rather than a continuous cash flow. Moreover, it must be presented in an aggregate form because the individual year's cash flow is not easily identifiable.

Total capital expansion, including land and equipment purchases, at all three sites, was approximately $35 million. A breakdown of the assets is presented in Table 15.

TABLE 15

MCC CAPITAL ASSET STRUCTURE

| Asset | Value |
|---|---|
| Buildings | $22,665,762 |
| Land | 7,639,096 |
| Equipment | 4,577,746 |
| | $34,882,604 |

The primary source of funds were the General Obligation Bonds, which were authorized in 1965 and issued in 1965, 1969, and 1970. The value of the bonds is $25.2 million. Revenue bonds provided an additional $2.8 million. Of the remaining $7 million, approximately $5.5 million is directly attributable to nonlocal sources. This $5.5 million represents new money that was added to the local economy. Figure 8 illustrates the distribution of cost-shares for the district's capital expansion.

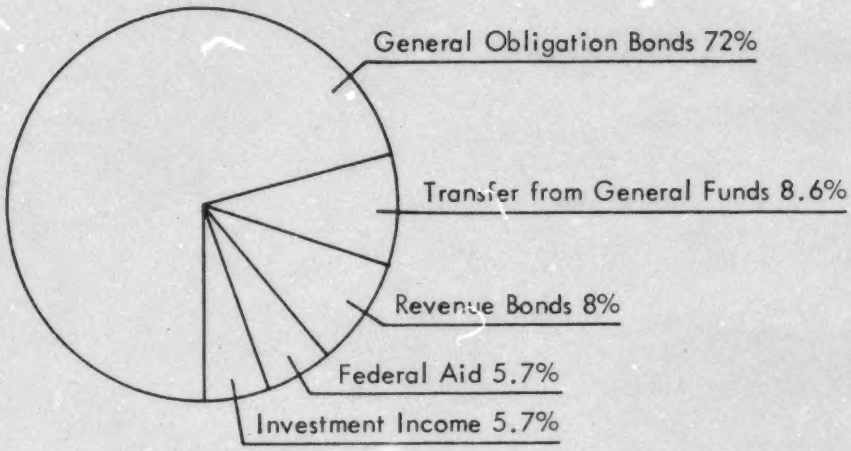



Figure 8 - Distribution of Cost-Shares Capital Expansion

Of the $28 million in bonds, approximately $17.8, or 63.6 percent, were issued through local banks and trust companies. Funds from nonlocal sources such as out-of-district students, federal interest subsidy grants, and state taxes, will ultimately provide approximately 22 percent of the monies needed to retire the bonds.

The economic impact of the MCC's capital expansion programs is not limited to the amount of new funds brought into the area. There is an impact on local jobs and local spending associated with construction and expansion at the three community college campuses. Using statistics compiled from the contractors involved in the construction at the three sites and similar studies, estimates of this effect have been made. Results are summarized in Table 16 below. (Please note that only the direct impact was calculated.) It can be assumed that due to union restrictions and operating policies of the contractors that the majority of these expenditures were made in the Kansas City, Missouri area.

TABLE 16

DIRECT IMPACT OF MCC CONSTRUCTION
ON LOCAL JOBS AND SPENDING

| | |
|---|---|
| Jobs (man-years) | 442 |
| Wages | $ 9,198,574 |
| Materials | $13,797,862 |

It has been proposed that an additional $59.5 million in General Obligation bonds be authorized to complete the development of the two suburban campuses, Maple Woods and Longview. The majority of these funds would be used directly in the construction of permanent facilities at these two sites. Again using statistics provided by industry sources, estimates have been prepared of the direct economic impact of these capital expenditures. These are summarized in Table 17.

TABLE 17

FORECASTED DIRECT IMPACT OF PROPOSED
MCC CONSTRUCTION

| | |
|---|---|
| Jobs (person-years) | 825 |
| Wages | $19,800,000 |
| Materials | $29,700,000 |

CHAPTER V

## METROPOLITAN COMMUNITY COLLEGE LOCAL GOVERNMENT

The Metropolitan Community Colleges interact with a number of government and government-related organizations ranging from the federal government to the local school boards. The interest in this chapter is in documenting the economic effect of MCC on the four county local governments of Metropolitan Kansas City, Missouri. Two flows are considered in the analysis. Both revenue and expenditures generated by and expended from MCC and its community of faculty, staff, and students to local government are analyzed in detail. It is not the intent to balance revenues generated against expenditures, and for this reason, the two components are discussed and presented separately. Revenue and expenditure flows between MCC, its community, and the county governments are schematically presented in Figure 9.

### Revenues

In 1974-75, total community college-related revenues received by the county governments were $1,860,509. In 1971-72, the total was $1,287,742. These totals were generated by the economic activity in the entire four county region. If only the district economic activity is considered, the totals were $1,630,817 and $1,083,196, respectively. These revenues are composed of property taxes paid by local faculty and staff and by local business for MCC-related activity, sales tax from MCC-related purchases, and state aid to public schools due to the families of MCC employees and students. Tables 18 and 19 disaggregate the revenues by these sources.

TABLE 18

COUNTY GOVERNMENT REVENUES BY SOURCE, DISTRICT

| Source | Estimated Revenues 1971-72 | 1974-75 |
|---|---|---|
| Property Taxes | | |
| Faculty and Staff | $ 135,929 | $ 217,864 |
| Local Business | 371,590 | 596,050 |
| Students | 247,666 | 293,962 |
| Sales Tax | 825 | 5,928 |
| State Aid to Public Schools | 327,186 | 517,013 |
| | $1,083,196 | $1,630,817 |

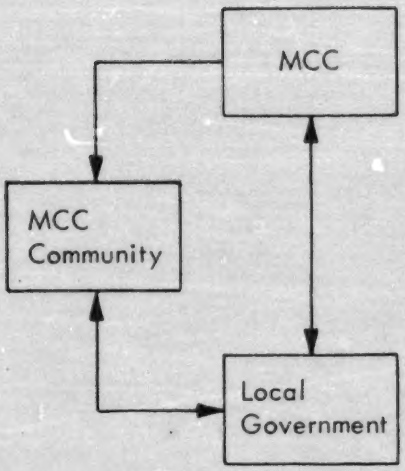



Figure 9 - Revenue and Expenditure Flows between MCC and the Four County Community

TABLE 19

COUNTY GOVERNMENT REVENUES BY SOURCE, FOUR COUNTIES

| Source | Estimated Revenues 1971-72 | 1974-75 |
|---|---|---|
| Property Taxes | | |
| Faculty and Staff | $ 150,995 | $ 241,282 |
| Local Business | 431,727 | 641,161 |
| Students | 280,286 | 329,419 |
| Sales Tax | 913 | 6,192 |
| State Aid to Public Schools | 423,821 | 642,455 |
| | $1,287,742 | $1,860,509 |

There is also an indirect revenue in the form of a net savings to the community due to municipal services provided by MCC. These services include police and security, sanitation, street-lighting, and street maintenance. Computation of these figures, however, was limited to wages paid for police and security because of the unavailability of the complete data. In 1971-72, MCC paid $56,047 in salaries for police and security. This increased to $198,721 in 1974-75.

## Expenditures

The expenditures of the county governments allocable to MCC-related activities and influences include the following: direct costs--municipal services and public school services provided by local government; and an indirect cost--the real estate taxes foregone through the tax-exempt status of the community colleges. Tables 20 and 21 summarize these expenditures for the district and the four county area by source.

TABLE 20

LOCAL GOVERNMENT EXPENDITURES BY SOURCE, DISTRICT

| Source | Estimated Expenditures 1971-72 | 1974-75 | Total Budget 1971-72 | 1974-75 |
|---|---|---|---|---|
| Municipal Services | $1,331,418 | $2,733,327 | $126,969,484 | $210,017,184 |
| Public Schools | 569,660 | 965,807 | 73,696,891 | 90,696,891 |
| Tax Foregone | 74,782 | 78,222 | 51,188,663 | 53,542,120 |
| | $1,901,078 | $3,699,134 | | |

TABLE 21

LOCAL GOVERNMENT EXPENDITURES BY SOURCE, FOUR COUNTIES

| Source | Estimated Expenditures 1971-72 | Estimated Expenditures 1974-75 | Total Budget 1971-72 | Total Budget 1974-75 |
|---|---|---|---|---|
| Municipal Services | $1,482,209 | $3,160,660 | $185,276,080 | $316,066,020 |
| Public Schools | 789,482 | 1,324,689 | 107,227,260 | 136,494,580 |
| Tax Foregone | 74,782 | 78,222 | 94,749,156 | 104,008,622 |
| | $2,271,691 | $4,485,349 | | |

CHAPTER VI

## METROPOLITAN COMMUNITY COLLEGES
## IMPACT ON HUMAN CAPITAL

The Metropolitan Community Colleges have made significant contributions to the development in human capital in the Kansas City, Missouri area. Documenting the extent of the economic contribution in this human capital development, however, is not only difficult, but close to impossible, since few can agree on an applicable methodology. For this reason, discussion in the area of impact on human capital is limited to description and subjective assessments.

The community colleges, in providing the service of postsecondary education, directly contribute to the supply of Kansas City's human capital in three ways. First, there is a considerable influence on the size and quality of the skilled labor force in the area. Approximately 45 percent of the community colleges' enrollment is in the alternative career occupational programs. Having local vocational programs available through MCC represents a substantial savings to local business. Expenditures for out-of-area recruiting for trained personnel and on-the-job training made by local business are considerably less.

In addition to augmenting the supply of skilled labor in the Kansas City area, MCC plays a significant role in placing its students and graduates. The Colleges' placement office offers a service to the community as an additional vehicle by which members of the labor force may enter the market. In 1974-75, Penn Valley Community College's placement office alone processed approximately 250 job requests from local business and government. Of these, about two-thirds (2/3) were for part-time positions.

Lastly, the Metropolitan Institute of Community Service has established a number of professional development programs which are offered to local businesses for employee vocational training. These courses are taught in district facilities and/or on-site locations. The subject matter of these courses covers a wide variety of topics, ranging from secretarial training to communication skills. The cost to business is $10-15 per hour depending on the research and development required by MCC to prepare the program. Enrollment in these programs for 1974-75 was over 3,000.

There are also indirect contributions made by MCC in support of the area's human capital. A number of studies have been undertaken to demonstrate that present income foregone by students in a locality will be locally repaid by higher future income. The underlying assumption of the studies,

however, as Hudson[5/] suggests, is the tendency of the graduates to stay in the community. In the case of MCC, this assumption would appear to be valid. A follow-up study of 1970-74 Maple Woods occupational graduates reveals that 69.1 percent have remained within the community and another 25 percent reside in surrounding Missouri areas. These results may not reflect the district as a whole since the study was limited to Maple Woods graduates, but the proportions are significant, and therefore worth consideration.

Another indirect effect involves the short run loss of income of students to the community, i.e., any salary foregone while studying. It is reasonable to assume that such a loss is probably small due to the large proportion of students (82.7 percent) who are working. Furthermore, of these, 78.2 percent are employed for more than 20 hours per week.

5/ Ibid., pp. 181-194.

APPENDIX A

## THE MULTIPLIER EFFECT

The economic impact of MCC has two components. The first is the direct expenditures made locally by the colleges and their faculty, staff, and students. The second, an indirect segment, is initiated by these direct expenditures. It is produced by the local respending of business, government, and individuals.

Each dollar of the initial expenditures by the district and its community provides income to local business, government, and individuals. These groups in turn make local purchases and pay salaries and wages, thus providing income for additional sectors of the economy. These sectors then continue the process of respending and producing income. As this process cycles, a multiplier effect of the original expenditures is generated. Figure 10 reflects this extended cash flow between the various sectors.

Obviously, not all of the respending is limited to the local community. However, in the long run a large diversified economy such as Kansas City can provide more goods and services and, therefore, absorb more of its business, than a smaller area.

In this analysis, two specific types of respending are considered. The first is concerned with respending in business purchases. The value of what is called a "Local Production" multiplier is highly dependent on the diversification of the area. The American Council on Education reports that this multiplier varies between $0.15 to $0.30 per dollar, measured as a function of expenditures by local residents in local business establishments. Comparison of the Kansas City area to other metropolitan areas suggests a value of approximately $0.20 per dollar for the four county area or $0.19 per dollar for the district.

The second type of respending of interest in this study is that of private individuals. Respending by private individuals encompasses expenditures by this sector in local business and the personal income supported by these expenditures. The A.C.E. reports values of these multipliers around $0.60 to $1.00 and $0.50 to $0.66 respectively. For this study, again based on comparisons with other metropolitan areas, values of $0.76 to $0.74 and $0.55 to $0.54 per dollar of expenditures by local residents in local business were used.

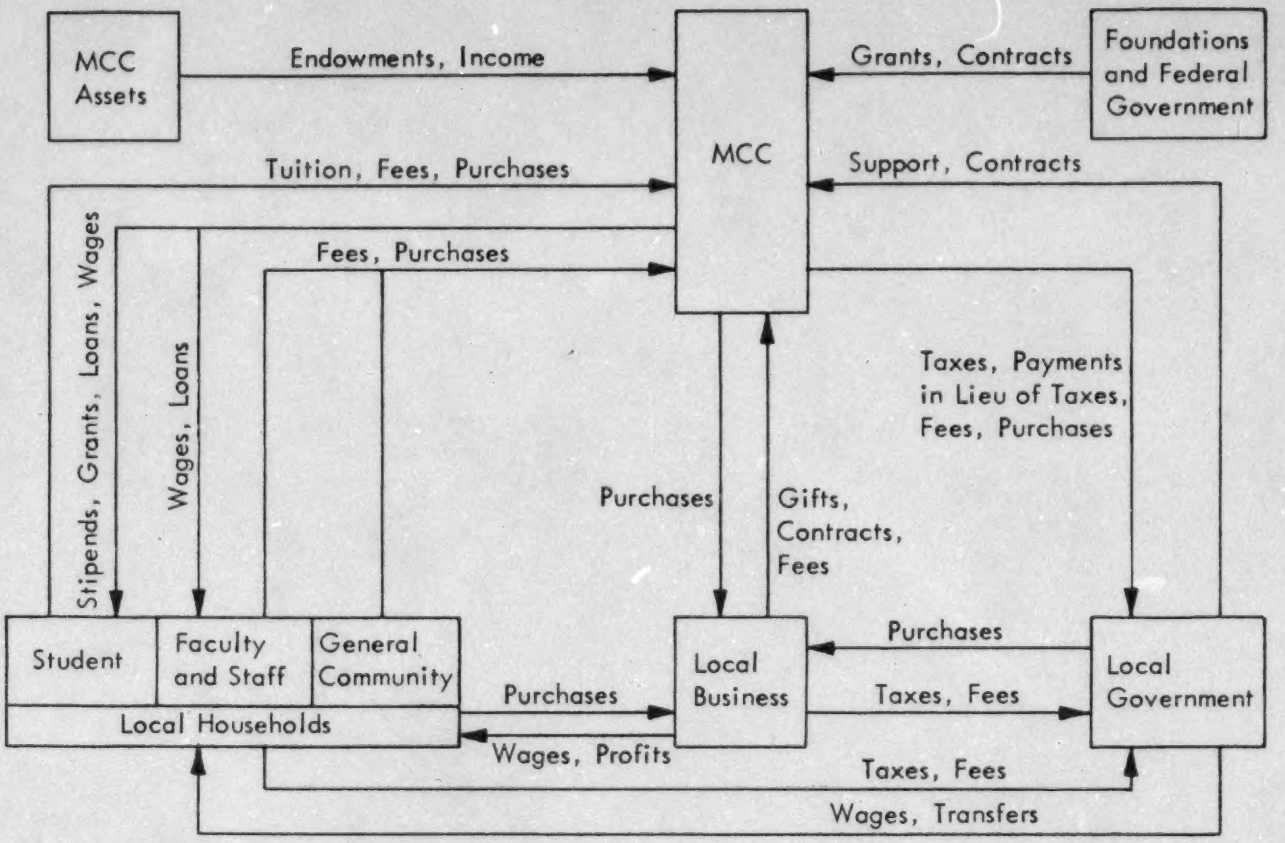



Figure 10 - Extended Cash Flow Model

APPENDIX B

## A STOCHASTIC MODEL FOR ESTIMATING EXPENDITURES

A number of techniques for estimating the expenditures of faculty, staff, and students have been developed by institutions using the Caffery-Isaacs model. The most common methods cited were survey, moderate standard of living estimates published by the Department of Labor, and estimates made in similar studies and other secondary sources. A criticism of any of these techniques is that they derive only an average consumption pattern and ignore differences due to income levels.

In this study, a stochastic model for estimating expenditures based on income levels was developed. The model uses income distributions for faculty and staff derived from the district's payroll records and income distributions for students derived from a student characteristic questionnaire administered by the colleges each semester. Expenditure patterns by income class are from the U.S. Department of Labor.

The example below illustrates the model. Here expenditures for local rental housing are computed for full-time faculty and staff.

$$E = f \sum_{i=1}^{3} I_i * e_i * N_i * P_i$$

where $E$ = expenditures for local rental housing

$f$ = proportion of faculty living locally

$I_i$ = average income of group i

$e_i$ = proportion of income group i spends for rental housing

$N_i$ = number of faculty and staff in group i

$P_i$ = proportion of group i that lives in rental housing

$i$ = income category (low, moderate, upper income)

For the four county area in 1974-75, the estimate of expenditures for local rental housing was made in the following manner:

$$E = 0.832[(6,749.5)*(0.223)*(17)*(1.00)$$

$$+ (10,557)*(0.206)*(419)*(0.75)$$

$$+ (20,410.44)*(0.233)*(197)*(0.15)]$$

$$E = \$623,608.09$$

## APPENDIX C

## ESTIMATING LOCAL EXPENDITURES

A retail gravitation model developed by Paul D. Converse and William J. Reilly and further refined by David L. Huff was used in this study to estimate the proportion of expenditures that were made in the local community. The model is built on the basic assumption that a consumer's attraction from community to community is directly proportional to the total dollar value of retail sales in the community and inversely proportional to the distance from the community. This is shown in the following equation:

$$P_{ij} = \frac{S_j / D_{ij}^2}{\sum_{j=1}^{n} S_j / D_{ij}^2}$$

where $P_{ij}$ = proportion of purchases made by residents of community i in community j

$S_j$ = total retail sales in community j

$D_{ij}$ = average distance between community i and community j

The results for this study are presented in Table 22. Weighting these values by the proportion of faculty and staff who reside in a particular area yields the aggregate proportion of local expenditures made by local residents, 76.8 percent. Conversely, the aggregate proportion of local expenditures by nonlocal faculty and staff is 29.6 percent.

TABLE 22

PROPORTION OF EXPENDITURES IN LOCAL COMMUNITY

| Community | Proportion of Resident Faculty and Staff | Proportion of Kansas City, Missouri, Purchases |
|---|---|---|
| Kansas City, Missouri | 0.372 | 0.765 |
| North Kansas City | 0.136 | 0.595 |
| Shawnee Mission | 0.127 | 0.303 |
| Raytown | 0.091 | 0.957 |
| Lee's Summit | 0.080 | 0.982 |
| Independence | 0.034 | 0.976 |
| Kansas City, Kansas | 0.032 | 0.325 |
| Grandview | 0.028 | 0.942 |
| Liberty | 0.018 | 0.978 |
| Belton | 0.009 | 0.943 |
| Other Missouri | 0.023 | --- a/ |
| Other Kansas | 0.009 | --- a/ |

a/ Proportion not estimated.

APPENDIX D

## ESTIMATING STUDENT EXPENDITURES

Earlier studies concerned with the economic impact of a college or university on its community have tended to eliminate part-time students from the analysis. This has been done in order to differentiate between those students who enroll in an institute of postsecondary education regardless of the college or university's presence and those who enroll only because an institution is available in the community. The weight of this argument is that only those students who would enroll elsewhere if the institution did not exist should be included, because they would cost the community their college-related and living expenditures if they moved to go elsewhere to school

To eliminate arbitrarily part-time students is not justified, especially in a community college. However, applying all expenditures of all part-time students, including those who would live in the area anyway, is double-counting, and attributing economic activity to the colleges that is not their due. In this report estimates of expenditures by students who would go elsewhere to school if the community college were not in Kansas City were made in the following way: students were divided into two groups based on the number of hours worked in a week. The assumption applied was that as the number of hours a student works in a week increases, the greater is the likelihood that the student enrolled only because the college or university was available. Expenditures of students who reported that they were employed for more than 30 hours, for example, independent of full-time or part-time status, were not included. This represented 54.9 percent of all students. Economic impacts will vary considerably with varying assumptions of student expenditures.

Table 23 briefly summarizes the results if (a) no student expenditures were included and (b) all student expenditures were included in determining total MCC-related expenditures.

TABLE 23

MCC-RELATED EXPENDITURE

| | No Students ($) | All Students ($) |
|---|---|---|
| 1971-72 District | 7,757,224 | 35,324,059 |
| 1971-72 Four County | 8,177,378 | 42,097,896 |
| 1974-75 District | 11,714,193 | 56,811,359 |
| 1974-75 Four County | 11,886,584 | 62,434,636 |

APPENDIX E

THE METROPOLITAN COMMUNITY COLLEGES
1974-75 OPERATING BUDGET[a/]

Sources

| | | |
|---|---|---|
| Local Revenues | | |
| County Taxes | $3,213,000 | 29.7% |
| Local Student Fees | 1,580,908 | 14.6% |
| Nonlocal Revenues | | |
| State Taxes | 287,000 | 2.6% |
| State Aid | 3,841,200 | 35.5% |
| Federal and State Programs | 1,125,509 | 10.4% |
| Investment Income | 250,000 | 2.3% |
| Out-of-District Student Fees | 519,092 | 4.8% |
| Other | 12,000 | 0.1% |

Uses

| | | |
|---|---|---|
| Local Expenditures | | |
| Wages and Salaries | $7,717,079 | 66.7% |
| Goods and Services | 1,832,426 | 15.8% |
| Nonlocal Expenditures | | |
| Wages and Salaries | 1,558,257 | 13.5% |
| Goods and Services | 458,106 | 4.0% |

a/ Based on the four county area.

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